03040202-02

(Little Lynches River)

General Description

Watershed 03040202-02 (formerly 03040202-070 and 03040202-080) is located in Lancaster and Kershaw Counties and consists primarily of the ***Little Lynches River*** and its tributaries. The watershed occupies 126,832 acres of the Piedmont and Sand Hills regions of South Carolina. Land use/land cover in the watershed includes: 54.5% forested land, 30.0% agricultural land, 9.2% forested wetland, 5.1% urban land, 0.7% scrub/shrub land, 0.2% barren land, 0.2% water, and 0.1% nonforested wetland.

Baskins Creek (Lyles Branch, Falls Branch, Bend Creek) is joined by Blackmon Branch to form the headwaters of the Little Lynches River. The Little Lynches River accepts drainage from Horton Creek (Little Lynches Creek, Sunrise Lake, Beckham Branch, Mobley Branch), Mill Creek, Camp Branch, Todds Branch, Haile Gold Mine Creek (Ledbetter Reservoir), and Neds Creek. Hanging Rock Creek (Lick Creek) flows past the City of Kershaw to join the Little Lynches River downstream of Neds Creek, followed by Gates Ford Branch, Shirley Creek, Cow Branch, Mill Creek (Bakers Millpond), Beaverdam Creek, and Bell Branch. The Little Lynches River Watershed flows into the Lynches River. There are a total of 257.5 stream miles and 171.9 acres of lake waters in this watershed, all classified FW.

Surface Water Quality

Station #	Type	Class	Description
PD-640	BIO	FW	LITTLE LYNCHES RIVER AT S-29-88
PD-335	S/W	FW	HORTON CREEK AT S-29-95
PD-005	S/W	FW	TODDS BRANCH AT S-29-564 1.5 MI NE OF KERSHAW
PD-006	P/W	FW	LITTLE LYNCHES RIVER AT US 601 2 MI E KERSHAW
PD-334	S/W	FW	HAILE GOLD MINE CREEK AT S-29-188
PD-632	BIO	FW	LITTLE LYNCHES RIVER AT SC 157
PD-109	P/W	FW	LITTLE LYNCHES RIVER AT SC 341, 4 MI SE OF KERSHAW
PD-329	S/W	FW	LICK CREEK AT S-29-13 ABOVE KERSHAW PLANT
PD-328	S/W	FW	HANGING ROCK CREEK OFF S-29-84 1.6 MI S OF KERSHAW
PD-669	BIO	FW	HANGING ROCK CREEK AT SR 770
PD-704	BIO	FW	COW BRANCH AT SPEARS ROAD
PD-343	W/INT	FW	LITTLE LYNCHES RIVER AT S-28-42
PD-678	BIO	FW	BEAVERDAM CREEK AT SR 59
PD-344	W/INT	FW	LITTLE LYNCHES RIVER AT SC 341, 3.5 MI SE OF BETHUNE

Little Lynches River - There are six SCDHEC monitoring sites along the Little Lynches River. This is a blackwater system, characterized by naturally low pH conditions. At the furthest upstream site ***(PD-640)***, aquatic life uses are partially supported based on macroinvertebrate community data. At the next site downstream ***(PD-006)***, aquatic life uses are not supported due to occurrences of copper in excess of the aquatic life acute criterion. There is also a significant increasing trend in five-day biochemical oxygen demand. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are not supported at this site due to fecal coliform bacteria excursions. Further downstream ***(PD-632)***, aquatic life uses are partially supported based on macroinvertebrate community data.

At the next site ***(PD-109)***, aquatic life uses are fully supported; however, there are significant increasing trends in turbidity and total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. A very high concentration of cadmium was measured in the 2003 sediment sample. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

Further downstream ***(PD-343),*** aquatic life uses are fully supported; however, there is a significant increasing trend in total nitrogen concentration. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. A significant decreasing trend in total phosphorus concentration suggests improving conditions for this parameter. Recreational uses are fully supported and a significant decreasing trend in fecal coliform bacteria concentration suggests improving conditions for this parameter.

At the furthest downstream site ***(PD-344)***, aquatic life uses are not supported due to pH excursions. There are also significant increasing trends in total nitrogen concentration. There is a significant decreasing trend in pH. A significant increasing trend in dissolved oxygen concentration suggests improving conditions for this parameter. Recreational uses are fully supported at this site.

Horton Creek (PD-335) – Aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially supported due to fecal coliform bacteria excursions.

Todds Branch (PD-005) – Aquatic life uses are fully supported; however, there are significant increasing trends in five-day biochemical oxygen demand and turbidity. Recreational uses are not supported due to fecal coliform bacteria excursions.

Haile Gold Mine Creek (PD-334) - Aquatic life uses are fully supported and significant decreasing trends in five-day biochemical oxygen demand and total phosphorus concentration suggest improving conditions for these parameters. This is a blackwater system, characterized by naturally low pH conditions. Although pH excursions occurred, they were typical of values seen in blackwater systems and were considered natural, not standards violations. There is a significant increasing trend in pH. Recreational uses are fully supported.

Lick Creek (PD-329) - Aquatic life uses are fully supported. Recreational uses are partially supported due to fecal coliform bacteria excursions; however, a significant decreasing trend in fecal coliform bacteria suggests improving conditions for this parameter.

Hanging Rock Creek – There are two SCDHEC monitoring sites along Hanging Rock Creek. At the upstream site ***(PD-328),*** aquatic life uses are fully supported; however, there is a significant increasing trend in five-day biochemical oxygen demand. Recreational uses are partially

supported due to fecal coliform bacteria excursions. At the downstream site ***(PD-669)***, aquatic life uses are partially supported based on macroinvertebrate community data.

Cow Branch (PD-704) **-** Aquatic life uses are fully supported based on macroinvertebrate community data.

Beaverdam Creek (PD-678) **-** Aquatic life uses are fully supported based on macroinvertebrate community data.

Groundwater Quality

Well #	Class	Aquifer	Location
AMB-037	GB	MIDDENDORF	BETHUNE

NPDES Program

Active NPDES Facilities

RECEIVING STREAM / FACILITY NAME / PERMITTED FLOW @ PIPE (MGD)	*NPDES# / TYPE / COMMENT*
BECKHAM BRANCH TOWN OF HEATH SPRINGS/WWTF PIPE #: 001 FLOW: 0.15	SC0040118 MINOR DOMESTIC
HAILE GOLD MINE CREEK HAILE MINING CO., INC. PIPE #: 002, 02A FLOW: 0.792	SC0040479 MINOR INDUSTRIAL
HAILE GOLD MINE CREEK MINERAL MINING/HILLTOP II PIT PIPE #: 001 FLOW: M/R	SCG730398 MINOR INDUSTRIAL
HANGING ROCK CREEK TOWN OF KERSHAW WWTP PIPE #: 001 FLOW: 0.8	SC0025798 MINOR DOMESTIC

Nonpoint Source Management Program

Land Disposal Activities

Landfill Facilities

LANDFILL NAME / FACILITY TYPE	*PERMIT # / STATUS*
BETHUNE DUMP MUNICIPAL	--------- CLOSED
TOWN OF HEATH SPRINGS COMPOSTING FACILITY COMPOSTING	291002-3001 ACTIVE
TOWN OF HEATH SPRINGS C&D LANDFILL C&D	291002-1701 ACTIVE

Mining Activities

MINING COMPANY *MINE NAME*	*PERMIT #* *MINERAL*
JIM LINEBERG GRADING & PAVING PARKER/BLACKWELL PIT	0440-57 SAND
HAILE MINING CO., INC. HAILE MINE	0601-57 GOLD ORE
MINERAL MINING CORP. HILLTOP MINE	0214-57 SERICITE

Growth Potential

There is a low to moderate potential for growth in this watershed, which contains the Towns of Kershaw and Heath Springs, and a portion of the Town of Bethune. A rail line connects the Town of Kershaw to the Cities of Lancaster and Camden along U.S. Hwy 521, and may provide some future growth.

Watershed Restoration and Protection

Total Maximum Daily Loads (TMDLs)

A TMDL was developed by SCDHEC and approved by the EPA for ***Hanging Rock Creek*** and ***Lick Creek*** to determine the maximum amount of fecal coliform bacteria they can receive from nonpoint sources and still meet water quality standards. Lick Creek (monitoring site PD-329) is a tributary of Hanging Rock Creek (PD-328), which is a tributary of the Little Lynches River. The primary source of fecal coliform to the streams was determined to be runoff from pastureland. The TMDL states that an 84% and 67% reduction in current fecal coliform loading from pastureland to the streams, respectively, is needed to meet the recreational use standard.